Network Working Group
Request for Comments: 962

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TCP-4 Prime

STATUS OF THIS MEMO

This memo continues the discussion of a possible transaction oriented transport protocol. This memo does not propose a standard. Distribution of this memo is unlimited.

DISCUSSION

In response to Bob Braden's call for a transaction oriented protocol (RFC-955), the following thoughts come to mind:

- The perceived problem is that connection set-up and tear-down take too long.
- Other aspects of TCP's reliability/robustness approach are presumably still desirable.
- We have some spare command bits in the TCP header, and I trust that there's still a version number field.
- So why not add NYS (no-way handshake) and NIF (graceless close) commands to TCP and leave everything else as was (except for the version, of course)?

Philosophically, that might be somewhat at variance with "the spirit of TCP," but pragmatically it ought to do the trick. Some careful crafting might be required for ISN handling with NYS, but my guess is that if you have to resend the first/possibly only segment you just pretend you're all of a sudden in the middle of SN space (initially you start at the bottom of it) and when it sees the funny ISN the NYS handler knows it should dequeue anything it might have had pending for (re)transmission and start fresh, assuming that if anything gets through to the starting side belatedly it'll get chucked because of being well outside the left edge of the window, if I'm remembering that part right--and please be aware that I'm not bothering to confirm recollections because I don't want to pretend that this is the spec: it's just meant to be the concept, in TV talk. (On the NYS emitting side, presumably you just drop right into ack←expected state--or whatever the right name is--after setting an appropriate bit that'll get you to fiddle the ISN if you take a timeout.) Maybe you even fiddle the ISNs more elaborately, to allow for several false starts rather than "two strikes and you're out," and maybe we take some spurious segment hits if SNs get suitably balled up, but if you really think handshaking is too expensive then that's the way the premise crumbles.

Speaking of graceless closes